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## TOWARD INTEGRATING OUR UNDERSTANDING OF TALENT IN THE US NAVY

by

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November 2018

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Prepared for: Chief of Naval Operations, N1T

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Over the past two years we have investigated how to understand and retain talent in two Navy Communities: Information Warfare and Surface Warfare. Both studies have been enlightening and informative, and we have a much better understanding now, both of what talent means in each community and what steps are important for retaining our talented officers in each. Indeed, we find *talent* to represent a situated and nuanced concept, with key characteristics differing across ranks, roles, jobs and other factors that also vary over time. Hence it has been uncertain whether the talent we retain is the best to meet our present, much less our future, needs. In this present study we work to integrate the previous two investigations toward understanding talent in the US Navy more broadly. Results of this qualitative and integrative study confirm the situated and nuanced nature of talent, but they also highlight common elements across the two communities studied, elements that may prove insightful for understanding and retaining talent across the US Navy.

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# ABSTRACT

Over the past two years we have investigated how to understand and retain talent in two Navy Communities: Information Warfare and Surface Warfare. Both studies have been enlightening and informative, and we have a much better understanding now, both of what talent means in each community and what steps are important for retaining our talented officers in each. Indeed, we find *talent* to represent a situated and nuanced concept, with key characteristics differing across ranks, roles, jobs and other factors that also vary over time. Hence it has been uncertain whether the talent we retain is the best to meet our present, much less our future, needs. In this present study we work to integrate the previous two investigations toward understanding talent in the US Navy more broadly. Results of this qualitative and integrative study confirm the situated and nuanced nature of talent, but they also highlight common elements across the two communities studied, elements that may prove insightful for understanding and retaining talent across the US Navy.

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# I. INTRODUCTION

Over the past two years we have investigated how to understand and retain talent in two Navy Communities: Information Warfare (Nissen & Tick, 2017) and Surface Warfare (Nissen & Tick, 2018). Both studies have been enlightening and informative, and we have a much better understanding now, both of what talent means in each community and what steps are important for retaining our talented officers in each. Indeed, we find *talent* to represent a situated and nuanced concept, with key characteristics differing across ranks, roles, jobs and other factors that also vary over time. Hence it has been uncertain whether the talent we retain is the best to meet our present, much less our future, needs.

In this present study we work to integrate the previous two investigations toward understanding talent in the US Navy more broadly. Results of this qualitative and integrative study confirm the situated and nuanced nature of talent, but they also highlight common elements across the two communities studied, elements that may prove insightful for understanding and retaining talent across the US Navy.

We begin by summarizing very briefly the nature and composition of the Information Warfare Community (IWC) and Surface Warfare Officer (SWO) Community. We also summarize some relevant previous research on retention and talent. We then summarize the common qualitative research method employed in both previous studies along with key results from the two studies in turn. This report concludes subsequently and offers promising topics for future research along these lines.

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# II. BACKGROUND

In this section we summarize briefly the nature and composition of the Information Warfare Community (IWC) and Surface Warfare Officer (SWO) Community. We also summarize some relevant previous research on retention and talent.

## A. INFORMATION WARFARE COMMUNITY

The Navy Information Warfare Community (IWC) provides a vital, sophisticated capability to address increasingly dynamic and unpredictable threats around the world. These consummate professionals are both producers and consumers of information, and they play a critical role in collecting, processing, exploiting and disseminating information of all types, using a powerful array of diverse technologies ranging from terrestrial computer networks to satellites in space. Arguably no other warfare specialty in the Navy could complete its missions effectively without the IWC, and with the advent and proliferation of cyber operations, information warriors are conducting strategic and tactical, offensive and defensive missions of their own.

The IWC aligns the OPNAV N2 (Intelligence) and N6 (Communications Networks) codes, along with elements of N3 (N39, information and cyber operations) and N8 (unmanned systems programs and resources) into a unified organization (USNA, 2016). It is led by the Deputy Chief of Naval Operations for Information Warfare (DCNO N2/N6). This represents a transition in the evolution of naval warfare, designed to elevate information as a main battery of naval warfighting capabilities and to establish naval prominence in intelligence, cyber warfare and information management. Indeed, technological advances make information both a formidable weapon and a constant threat, and information has emerged to represent a unique and distinct type of warfare (IDC, 2016).

Some critical missions include the development and defense of intelligence, networks and systems; management of critical warfighting information; provision of command and control capabilities; and maintenance of information technological edge. Operationally, many of these missions are organized and conducted through the Fleet Cyber Command/10th Fleet (C10F). This represents the Navy component of the US Cyber

Command, the Navy authority for cyber operations, the Navy service cryptologic element, and the operational authority and capability provider for information and cyber operations (USNA, 2016).

Effective performance in the IWC requires a somewhat unique set of skills and capabilities, which are distributed across a relatively broad collection of professional designators and specialties. Many such skills and capabilities are learned through formal education and job specific training, but most people say that the majority of key knowledge is learned on the job, through personal and professional experience, and even dependent upon innate capabilities and personality attributes.

The problem is, the same skills and capabilities that make IWC personnel so valuable to the Navy also make them valuable to myriad firms in industry and organizations elsewhere beyond the Services. As a result, many talented information warriors are leaving the Service at the midpoints of their military careers. Network administrators, computer security specialists, technology consultants, and other relatively high level and high value jobs maintain strong demand for IWC talent, and many firms in industry and elsewhere offer higher—in some cases much higher—compensation levels than military jobs, generally without the need for periodic deployment and frequent relocation.

Indeed, a “war for tech talent” (Rosenbush, 2016) is being waged in industry, with many companies fighting to attract and retain technical employees (Nash, 2016). Even fresh college graduates, with no experience, are commanding high starting salaries and generous incentives to switch employers, and many such young employees report receiving 20 calls each day from recruiters trying to persuade them to change jobs (Dodge, 2016). This is not a complete surprise, however, for retention of information warriors has been problematic for a number of years (Linn, 2009), and the Chief of Naval Personnel expresses great concern about attrition (LaGrone, 2014). Although the metaphoric tide of attrition has been flowing against the Navy for several years (Snodgrass, 2014), its effect on the IWC’s future seems particularly ominous.

Further, the IWC is comparatively new. The Information Dominance Corps (IDC) was created roughly a decade ago and renamed “IWC” in 2016. Alternatively, other Navy communities (esp. Surface Warfare) have been in existence since the US Navy’s inception over two centuries ago, and their predecessors can be dated back several millennia to the beginning of navies in general. Even naval aviation has been operating for roughly a century now. Hence the IWC lacks the history and experience of other Navy communities, and it is therefore less clear which selection, promotion and retention techniques are comparatively more versus less effective in the IWC than in other communities. For instance, unlike many Navy communities (e.g., Aviation, Nuclear), in which clear career guidance and well-established incentives (e.g., bonus and retention pay) are in place, the comparatively inchoate IWC does not appear to benefit similarly.

The IWC is also comparatively very heterogeneous. The community is comprised of five designators and corresponding professions: 1) 1800 – Oceanography, 1810 – Cryptologic Warfare, 1820 – Information Professional, 1830 – Intelligence, and 1840 – Cyber Warfare Engineer (IDC, 2016). Briefly, Oceanography personnel provide actionable information associated with meteorologic, climatologic, oceanographic and space environment observations and prognostic products (USNO, 2016). Cryptologic Warfare and Cyber Warfare Engineer personnel engage principally in computer network operations, which can be viewed conveniently in terms of network attack, defense and exploitation. Information Professional personnel deliver cyber ready systems and capabilities to the Fleet, and they operate Navy networks 24x7 to support the full spectrum of missions. Intelligence personnel in turn provide evaluated intelligence on adversaries' capabilities and intentions to support planning and operations at all levels of warfare (USNA, 2016).

Although all five professions work with information, and some reflect partially overlapping skill sets, many of the kinds of jobs performed and the kinds of education and training required remain quite different. This suggests that demands for information warrior talent in industry and beyond are likely to differ across professions also. Hence even if we were to introduce incentives along the lines of those noted above, they might have to vary—perhaps considerably—from one designator to the next. For instance, very little or no incentive may be required to retain oceanographers—based solely upon industry demand for their skills and capabilities—whereas the Navy may be unable to match the incentives offered for cyber warriors and information professionals that benefit from high industry demand. Even for this relatively small community, a one size fits all approach to IWC talent retention may be inappropriate.

Moreover, given this relatively new, heterogeneous and unique nature of the IWC, it has not been entirely clear what “talent” means in this community. Do the elements of talent for an oceanographer align well with those of a cyber warfare engineer, for instance? Is the demand for cryptologic warfare skills comparable to that for information professionals? Or does talent vary across designators and professions, and perhaps along the rank structure as well? Indeed, *talent* seems likely to be a highly situated and nuanced concept—far from general and monolithic—aligned with a person’s knowledge and capability within an organization setting. Until we can identify what constitutes talent, we will likely have difficulty differentiating between personnel with a lot versus a little of it, and hence we risk promoting and retaining the wrong people, while allowing—or even worse, encouraging—our best personnel to leave the Navy.

The IDC’s five year (2012 – 2017) human capital strategy includes four primary goals: 1) manage the community as a total force; 2) build competencies through training, education and experience; 3) strategically integrate and align the workforce with mission and capability requirements; and 4) create a warfighting culture (NIDC, 2016). The vision is to “attract, develop, and retain a cohort of highly trained and competent officers, enlisted, and civilian professionals who are fully integrated with the Navy’s combat forces, and delivering warfighting effects to Naval and Joint forces across the full spectrum of military operations” (NIDC, 2016: 6). The retention of talented personnel is clearly central to this strategy.

## B. SURFACE WARFARE COMMUNITY

The Navy Surface Warfare Community (SWC) provides a vital, sophisticated capability to address increasingly dynamic and unpredictable threats around the world. These dedicated professionals navigate, maintain and fight warships all around the globe, every day and night, in any kind of weather, in Harm’s way and in peace. Navy surface forces can utilize their own speed, endurance and weapons to project power far forward, maintain freedom of navigation through international waters, counter piracy, and conduct a host of other critical missions (e.g., antisubmarine warfare, air defense, ballistic missile defense, strike).

The Surface Warfare Officer (SWO) profession is comparatively ancient, dating back to the beginning of naval warfare, and relatively homogeneous. Paradoxically, although proficiency at surface warfare is such a fundamental of naval skill, it was not recognized as a distinct warfare community until the early 1970s. Although the moniker applies to anyone who has earned the SWO Pin, by “SWO” we refer principally to Navy officers that lead and operate surface combatant vessels, especially those designed for surface warfare with their own weapons. This would exclude submarines, which operate submerged; aircraft carriers, which fight with airplanes; and other craft that do not use their own weapons in a surface warfare role. Hence in the current era, this points us principally toward cruisers and destroyers (CRU-DES), littoral combat ships (LCS), frigates and like vessels, as well as the various sub-types that constitute the Surface Navy’s Amphibious Force.

SWOs have traditionally followed a relatively rigid career path, with sea-shore assignments and rotations mapped out explicitly from junior officer (JO) to senior officer (SO; SWO Community, 2016). The clear emphasis of initial assignments and rotations centers on gaining experience and proficiency at sea, typically with the first four years or so serving aboard ship. After completing the Basic Division Officer Course (BDOC), officers report to their first division officer (DivO) tour, during which time they would promote to Lieutenant Junior Grade (O2). The Advanced Division Officer Course (ADOC) would generally precede their second DivO tour, during which time they would likely face one or two Department Head screening boards and promote to the rank of Lieutenant (O3). Throughout these years at sea, they would also stand watches and earn their Officer of the Deck (OOD) and SWO qualifications. Exact career paths may differ a bit, and some officers may earn additional qualifications such as Tactical Action Officer (TAO) and Engineering Officer of the Watch (EOOW) as well.

A shore tour of roughly three years follows these two DivO tours, and those previously selected would then complete Department Head School before returning to sea for one or two Department Head tours (with a possibility of early command) as they are screened for Lieutenant Commander (O4). Signing up for the Department Head tour(s) generally involves a major commitment of additional service time in the Navy, and this has posed a retention challenge. Indeed, the Navy O3s selected to serve as Department

Heads appear to comprise a particularly insightful population to study in terms of SWO talent and retention. Having been selected to become Department Heads, the Navy clearly views them as particularly valuable human capital, and facing a major commitment of additional service time, these officers have an important decision to make in terms of career and lifestyle.

Effective performance in the SWC requires a somewhat unique set of skills and capabilities, which center on life and work aboard ships at sea. Although work aboard ships is organized across various departments and divisions, everyone must work together, in an integrated manner, to ensure safe passage and mission success while underway. This requires strong discipline and hard work, where mid- and junior-level officers, for instance, devote long hours to standing watches, leading departments and divisions, earning warfare and shipboard qualifications (e.g., OOD, SWO, TAO, EOOW), and maintaining their health and fitness with the remaining time available.

Many SWOs find life at sea to be fun and exciting, filled with challenging jobs and camaraderie, and a balance that makes the hard work and long hours worthwhile and rewarding. Alternatively, for others the sacrifice seems unsustainable, and the SWC has battled mid- and junior-level officer attrition for many years. To help combat such attrition, Community leaders have devised and implemented a number of progressive changes to enhance the SWO profession and to help retain talent. For several instances, it has recently increased its Department Head Retention Bonus; increased compensation to officers selected early for Department Head; and organized a number of alternate, parallel career tracks to expand flexibility and options regarding sea-shore rotation, education, specialization and other decisions affecting retention (NAVADMIN 206-16, 2016; SWO Community, 2016).

The goal is to retain, develop and promote the most talented SWOs (SWO Community, 2016). As with the IWC noted above, the construct *talent* remains somewhat ambiguous for SWOs, however, and the most “talented” officers appear to be those receiving the highest rankings and strongest endorsements on their fitness reports (FITREPs). A key problem is, FITREPs are subject to increasing criticism regarding bias, subjectivity (Bjerke et al., 1987; Donaldson, 1996) and foci on tenure over merit and current performance over future potential (Faram & Tilghman, 2017).

## C. RETENTION AND TALENT RESEARCH

Retention in the Military has been studied for many decades (Singer & Morton, 1969; Rocco et al., 1977; Hurlock & Montague, 1982; Cooke & Quester, 1992; Sullivan, 1998; Christensen et al., 2002). A great many retention studies look backward, trying to make sense of historic data. Makarenko (2014), for instance, identifies a positive correlation between unemployment in the US economy and SWO retention. This suggests that with the economy near full employment today, retention may be more of a challenge than during the period of and following the Great Recession.

Similarly, Clark (2016) identifies a positive correlation between the timing of graduate education and retention of SWO Department Heads who earn a masters degree after five years of service: they are more likely to retain than those who don’t or who earn such degrees before or earlier in their careers. This suggests that graduate education during a SWO’s career can represent an effective retention tactic. Further, Mundell (2016) identifies a lower retention rate for female officers than for their male counterparts, but no difference is found in promotion rates to O4. Although the study does not focus on SWOs specifically, it suggests that men and women may have somewhat different career and education needs. Like the study above, graduate education also shows a positive correlation with officer retention.

Alternatively, some promising studies estimate retention models for officers in general (Parcell et al., 2003), in communities such as aviation and surface warfare (Parcell & MacIlvaine, 2005), and to assess diversity (Kraus et al., 2013). By developing models, such studies equip us to look prospectively, which is important. We’re working to address *future* talent losses, not simply to understand those that took place in the past.

One relatively recent study (Snodgrass & Kohlman, 2014) also looks prospectively. Instead of developing models from historic data, however, it grounds data by asking sailors directly about their plans in terms of staying in or leaving the Navy. This direct, prospective approach aligns well with our interest in developing a grounded understanding. Although the present study focuses more on talent than retention, there is clear complementation.

Nonetheless, the idea of asking sailors directly is not new, for the Navy administers broad surveys routinely. For instance, until being discontinued several years ago, the ARGUS survey (Frith, 2007) would ask sailors about their quality of life and like questions. The Career Viewpoint Survey (CNP PAO, 2014), as another instance, similarly invites sailors to provide advance input regarding career decisions prior to key milestones (esp. end of duty obligated service, end of minimum service requirement, projected rotation date). Soliciting advance input seems important[1], particularly if the Navy is sufficiently agile to do something to prevent talented people from leaving based on the results.

Although such surveys are advertised as voluntary and confidential, it is unclear whether sailors have complete trust in the confidentiality of an official Navy system or whether they feel that their inputs matter (Anonymous, 2015). As explained in the next section, our approach of conducting interviews anonymously—for research purposes—and destroying any personally identifiable information, helps to overcome the confidentiality barrier. Plus, we focus on one community at a time, with a more situated and concentrated lens, to help convey the potential visibility of our results.

Talent remains a challenging topic of study, however (Corley et al., 2015). A decade ago, research and consulting in this area were deemed problematic, with little data to support practitioner claims (Lewis & Heckman, 2006). Later research notes significant progress, but issues with clear definitions and conceptual boundaries remain (Collings & Mellahi, 2009). This theme continues with more recent, extensive literature reviews (Tarique & Schuller, 2012).

Alternatively, a promising link established with knowledge management (Schroevers & Hendriks, 2012) helps to bring considerable academic rigor and successful practitioner experience to bear on the talent management topic, which is consistent with the Navy's own knowledge management practices: "Knowledge management is the alignment of people and processes, enabled by technology" (DON CIO, 2016). This suggests strongly that talent is not some universal state or trait. Rather, it appears to be highly situated and nuanced—far from general and monolithic—that is dependent, for instance, upon the specific processes and technologies associated with the knowledge required for a person to exhibit talent. A “talented” person in one domain may represent an “untalented” person in another.

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[1] The Navy also administers the Career Viewpoint Exit Survey to members as they leave the service.

Consider, for example, a Chess grand master—a truly talented person in the domain of Chess—who is left stranded in the middle of the Amazon Jungle. Without considerable training and experience *with jungle survival*, would such person even live through a single day? Likewise, take an Amazon Jungle native—a truly talented person in the domain of jungle survival—and enroll him or her in a Chess tournament. Without considerable training and experience *with Chess*, would such person even win a single game? Nissen (2014) goes further, explaining how the *balanced* interaction between people, processes, organizations and technologies is key. This perspective gives ever greater credence to our bottom-up, situated, grounded approach to understanding talent, beginning with the SWO: talent seems highly likely to differ tremendously across organizations, domains and circumstances.

Indeed, contemporaneous and complementary research within the Navy (Palmer, 2017) views talent as a tripartite construct comprised of skills (innate and learned), performance, and potential for improvement and innovation. The researchers refer to the three parts as technical capacity, process maturity, and absorptive capacity, respectively. They go further, defining *Navy Quality* (personnel) as the degree to which there is a correlation and alignment between an individual’s talent and the job requirements (p. 8). This parallels, complements and reinforces our proposition that talent is nuanced and situated: talent is job specific in this view.

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# III. PREVIOUS RESULTS

In this section we report key results from the two previous studies. This provides important and relevant information that we use to begin synthesizing an integrated understanding of talent in the US Navy. First we summarize the common qualitative research method employed in both previous studies. Then we summarize key results from the two studies in turn.

## A. RESEARCH METHOD

In this section we elaborate on our research method. As noted in the two previous studies, we seek a direct, grounded understanding of IWC and SWC talent, so we employ very well-established, grounded theory building methods (Glaser & Strauss, 1967; Strauss & Corbin, 1990). Such methods equip us to develop an understanding inductively, from the data themselves, as opposed to relying upon a deductive, top-down model likely to be too general and coarse for our situated and nuanced concept *talent*.

Moreover, it provides a systematic, scientific process for qualitative research, one that both guides and encourages repeated iteration of data collection and analysis (Eisenhardt, 1989). Such repeated iteration is noted widely as key to grounding theory in the data of a qualitative study (Glaser & Strauss, 1967) and enables us to focus persistently on the IWC and SWC as potentially unique and revelatory cases to study (Yin, 1994). Results from these case studies can then become even more useful in comparison with other Navy communities as complementary and contrasting cases, offering potential to elucidate insights unattainable through other research methods.

The sites selected for this study provide rich environments for investigating both IWC and SWC talent. Regarding the former, we’re able to build upon prior work (Linn, 2009) that asked information warriors questions directly while they were studying at the Naval Postgraduate School (NPS), and we’re able to solicit their prospective input regarding factors that could influence their *future* decisions to leave or stay in the Navy. Further, students at NPS (and like education institutions) have had an opportunity to detach from the demands of everyday Fleet work and to reflect upon their careers—past and future—over 18 months or more while in school. This enables study participants to think over the longer term, with fewer, everyday, pressing issues to contend with, which arguably serves very well our research purpose of understanding IWC talent as a revelatory case.

Regarding the latter, we’re able to build upon contemporaneous work (Palmer, 2017) investigating why a seemingly large and unacceptable number of SWOs are leaving the Navy after completing their minimum service requirement (MSR). This work parallels ours with a situated and nuanced perspective for talent, as noted above, and it seeks to develop a tripartite model. We’re able to build further upon the IWC study above, which enabled us to solicit their prospective input regarding factors that could influence their *future* decisions to leave or stay in the Navy. This arguably serves very well our research purpose of understanding SWO talent as a revelatory case also.

Studying revelatory cases such as these represents theoretical sampling (Glaser & Strauss, 1967) and makes it suitable for analytic generalization (Yin, 1994). As demonstrated several years back in the context of strategic learning (Thomas et al., 2001: 332), this calls in part for case selection of “a unique exemplar of a particular phenomenon to bring key dimensions to light.” Through study of these revelatory cases, we seek to bring the situated and nuanced nature of talent to light and to illuminate patterns with potential to inform retention.

We employ three techniques for data collection: 1) document review, 2) strategic contact, and 3) interview. Briefly, document review provides important background information about the IWC and SWC. It also helps the Investigator to ask informed interview questions. Additionally, the Researcher has candid, confidential and sustained access to a Strategic Contact in each community (i.e., a senior, experienced IWC officer and SWO). These senior naval officers are very experienced with military organizations and warfare processes in general, and each has considerable individual experience with information warfare and surface warfare, respectively, in particular. This data-collection technique complements the other modes well. The Strategic Contacts represent ready sources of military grounding along with both IWC and SWC perspectives for consultation by the Investigator over the course of the study, and these naval officers know talent when they see it.

Semi-structured interviews (Rubin & Rubin, 1995) comprise the central method for collecting our qualitative data. Although we do pose a small number of common questions to all participants, such questions are very open-ended, asking participants to tell about their experiences, feelings, observations and perceptions. We want to hear what the participants have to say—in their own words—not impose a bunch of theoretic, survey questions. Further, the interviews are conducted with probing (Nelson et al., 2000) and snowballing (Reich & Kaarst-Brown, 1999) techniques, and they continue until theoretical saturation (Glaser & Strauss, 1967) is reached. Because we focus in particular upon IWC and SWC talent, which is a relatively narrow topic, such saturation is reached after the first set of interviews, indicating sufficiency in terms of the sample frame. Each interview involves about one hour of oral interaction, often with follow up via email, telephone and additional meetings.

It is important to reemphasize that this is a qualitative study, not a quantitative analysis, and our interest is much more toward theory building than theory testing. Hence, as noted above, we perform theoretical sampling (Glaser & Strauss, 1967), not statistical sampling, and we pursue analytic generalization (Yin, 1994), not statistical generalization. As such, we adhere to very well-established procedures for qualitative data collection and analysis (Denzin, 1994). Such procedures do not dictate that we attempt to develop large, random samples.

Quite to the contrary, we look for a small sample that will be informative, that we can understand in depth, and that will reveal both similarities and differences across participants. Additionally, we work deliberately to select participants who are likely to provide the kind of grounded data that we seek through interviews (Rubin & Rubin, 1995). Toward these ends, our recruitment process emphasizes volunteer participants. The idea is that people who volunteer are likely have something to say, both positive and negative. This helps to ensure smooth, candid, flowing interviews, and it increases the likelihood of collecting data that are considered important by the participants, particularly as our interview techniques enable us to probe and home in on different topics across the various participants. This provides considerable contrast to mandatory surveys with standard questions. Our recruitment script is included in Appendix A of the previous study for reference.

Nonetheless, for the IWC we ensure that our sample frame includes at least one participant from each of the five IWC subcommunities, so we can collect data representing each perspective, and we ensure that our sample frame focuses on IWC officers viewed as "talented" by the Navy. Similarly, for the SWC we ensure that our sample frame focuses on SWOs viewed as "talented" by the Navy, homing in on O3s who are eligible and have been selected to serve as Department Heads, who have been identified as "talented" beyond the current FITREP process (e.g., by our Strategic Contact), and who have made the commitment to their Department Head (DH) tours. In some contrast with the IWC sample frame, however, which is heterogeneous by design to reflect the heterogeneity of that community, our sample of SWOs is highly homogeneous by design to reflect the homogeneity of that community.

We also ensure that we collect the same background information from each participant, so we have a common basis of comparison. This is the same background information used in a companion quantitative study, so we can compare qualitative and quantitative findings and results. The background information questionnaire is included in Appendix B of the previous study for reference too.

Plus, we further ensure that we ask at least some of the same interview questions to all participants, so we establish a base set of responses for comparison and contrast. Most study participants answer these questions in writing before their interviews. This streamlines the process and provides a good basis for asking other questions through probing and homing in on different topics across the various participants. The common set of interview questions is included in Appendix C of the previous study for reference as well.

To summarize the sample frames, for the IWC this purposeful sample concentrates on study participants who are assigned currently (or were assigned recently) to the NPS for graduate education; on the two, mid-career organization levels (i.e., O3 & O4) noted by our Strategic Contact as particularly vulnerable at present and prone to problems with retention of talent; and who have been identified as "talented" beyond the current FITREP process (i.e., by our Strategic Contact). It includes participants representing each of the IWC's five professions: Oceanography, Cryptologic Warfare, Information Professional, Intelligence, and Cyber Warfare Engineer. This enables us to look for similarities and differences—even within the IWC—across specialties, and it offers potential to gain insight into alternate situations and nuances that may determine and affect corresponding talent.

Likewise for the SWC this purposeful sample concentrates on study participants who are assigned currently (or were assigned recently) to the NPS for graduate education; on the mid-career organization level (i.e., O3) noted by our Strategic Contact as particularly vulnerable at present and prone to problems with retention of talent; and who have been identified as "talented" beyond the current FITREP process (i.e., by our Strategic Contact). As noted above, such NPS students are highly suitable for this study, because the investigators are collocated on campus with participants, who have an opportunity to detach from the demands of everyday Fleet work and to reflect upon their careers—past and future—over 18 months or more while in school.

It is important to note that these are not the typical kinds of students used in much academic research. Indeed, far from the inexperienced college freshmen who participate in myriad psychology, marketing and other studies—the external validity of which is wholly suspect—all participants in our sample frame are mid-grade military officers (O3 & O4), with five to ten years of military service, who have come to the NPS with leadership experience directly from operational tours. These people know the Navy, and their incorporation in our sample frames enhances the external validity of this study greatly.

To enhance candid responses, and to reassure participants regarding anonymity, we choose not to use a tape or video recorder for interviews. Nonetheless, extensive notes are taken and summarized immediately following each interview, and collocation on the NPS campus enables the Investigator to follow up with interviewees where deemed necessary to clarify issues, to delve more deeply into topics of interest, or simply to verify facts, notes and comments.

In terms of coding, following Gioia and colleagues (1994) in part, we employ a multistage analytic approach to data collection, analysis and interpretation. In the primary stage, data collected and analyzed through the course of our interviews lead to first order coding (van Maanen, 1979), accomplished in a manner comparable to open coding (Strauss & Corbin, 1990), which reflects terms used directly by organization participants.

In other words, adhering to our grounded approach, we employ *in vivo* codes in the primary stage, using terms from the interviews themselves to code each passage and section. This helps to keep the coding process as close as possible to the data. Investigator reactions and analyses generate corresponding first order interpretations, which are meaningful to organization participants also. Where warranted by theoretical sampling, many first order interpretations may lead us to additional data collection and analysis at the same level, reflecting terms used directly by organization participants. This first order analysis grounds our interpretations in the data.

In the secondary stage, we treat first order interpretations as “data” for second order analysis. This second order analysis augments its first order counterpart with theoretical insight and comparison, bringing in the investigator’s perspective that is informed by the literature, in a manner comparable to axial coding (Strauss & Corbin, 1990). Gioia and colleagues (1994: 367) explain the benefits of using such a multistage approach. They include exposing and integrating different aspects of the phenomena of study that are revealed separately through first versus second order analysis and interpretation.

> Although informant views can reveal the rich means or methods by which members can construct reality … they usually do not address the deep structure of experience. Similarly, although the researcher views tend to gloss the richness of lived experience, they place in *bas-relief* the dimensions or structure of phenomena. Because the knower and known are interdependent in this process of understanding, however, the most desirable approach is to triangulate insider and outsider views.

As with the first interpretation stage, these second order interpretations may lead us in turn to collect and analyze additional data, to refine our first order interpretations, to augment our second order analysis, and so forth. This second order analysis bridges grounded data and interpretations with theory, and it helps us with the emergence of themes, accomplished in a manner comparable to selective coding (Strauss & Corbin, 1990).

Additionally, regarding the Investigator’s background and biases, he is a tenured full professor of Information Science and of Management at the NPS, and although he is a Navy civilian, he comes to the study independently and without operational military experience. This allows a relatively fresh look at the IWC and SWC, but one that includes considerable familiarity and experience with knowledge, talent and retention in industry and other sectors outside the Military, in addition to many years of research addressing diverse aspects of military organization, personnel, training, education and operations. Hence the Investigator is neither a jaded insider nor a naïve outsider.

Further, the Investigator comes to the study with no particular statement to make or point to prove. Rather, he comes seeking to understand IWC and SWC talent inductively, from a grounded perspective, and to elucidate possible approaches to retaining talented IWC and SWC personnel. Hence initial coding of data is conducted in a manner that lets the data speak for themselves and that uses study participants' own terms. This helps to ensure that initial interpretations are both grounded firmly in the data and meaningful to organization participants.

Finally, in addition to the well-accepted methods and techniques outlined above, the study also employs many of the proven tactics for qualitative research outlined by Miles and Huberman (1994: 262-276), which include taking a low profile, sampling people with different views, triangulating across multiple data-collection techniques, multiple verification efforts, and seeking an *emic* perspective (Bernard, 1998). Such tactics serve to mitigate potential bias (e.g., stemming from a single Investigator). Moreover, repeated member checking (Denzin, 1994) is accomplished through periodic interaction with our Strategic Contacts and follow up with the study participants. Comments pertaining to the interview summaries and findings are also received from the Strategic Contacts, participants in the study, experienced IWC and SWC officers and other researchers, and a preliminary summary of study findings and implications is shared with the participants and others for comment.

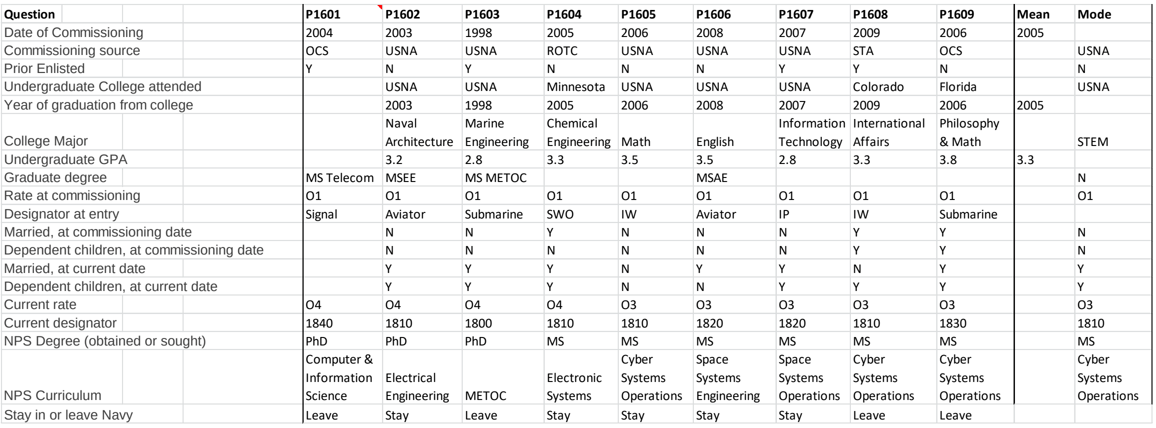
## B. IWC STUDY RESULTS

In this section we summarize key results from the IWC study. We begin by summarizing the backgrounds of our study participants. We then summarize the key results.

### 1. Participant Backgrounds

In this section we summarize the backgrounds of our study participants. The corresponding data are collected through the background questionnaires noted above and included in Appendix A of the previous study for reference. The participant background information is summarized in Table 1.

Table 1. IWC Participant Background Information



| Question | P1601 | P1602 | P1603 | P1604 | P1605 | P1606 | P1607 | P1608 | P1609 | Mean | Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Date of Commissioning | 2004 | 2003 | 1998 | 2005 | 2006 | 2008 | 2007 | 2009 | 2006 | 2005 | |
| Commissioning source | OCS | USNA | USNA | ROTC | USNA | USNA | USNA | STA | OCS | | USNA |
| Prior Enlisted | Y | N | Y | N | N | N | Y | Y | N | | N |
| Undergraduate College attended | | USNA | USNA | Minnesota | USNA | USNA | USNA | Colorado | Florida | | USNA |
| Year of graduation from college | | 2003 | 1998 | 2005 | 2006 | 2008 | 2007 | 2009 | 2006 | 2005 | |
| College Major | | Naval Architecture | Marine Engineering | Chemical Engineering | Math | English | Information Technology | International Affairs | Philosophy & Math | | STEM |
| Undergraduate GPA | | 3.2 | 2.8 | 3.3 | 3.5 | 3.5 | 2.8 | 3.3 | 3.8 | 3.3 | |
| Graduate degree | MS Telecom | MSEE | MS METOC | | | MSAE | | | | | N |
| Rate at commissioning | O1 | O1 | O1 | O1 | O1 | O1 | O1 | O1 | O1 | | O1 |
| Designator at entry | Signal | Aviator | Submarine | SWO | IW | Aviator | IP | IW | Submarine | | |
| Married, at commissioning date | | N | N | Y | N | N | N | Y | Y | | N |
| Dependent children, at commissioning date | | N | N | N | N | N | N | Y | Y | | N |
| Married, at current date | | Y | Y | Y | N | Y | Y | N | Y | | Y |
| Dependent children, at current date | | Y | Y | Y | N | N | Y | Y | Y | | Y |
| Current rate | O4 | O4 | O4 | O4 | O3 | O3 | O3 | O3 | O3 | | O3 |
| Current designator | 1840 | 1810 | 1800 | 1810 | 1810 | 1820 | 1820 | 1810 | 1830 | | 1810 |
| NPS Degree (obtained or sought) | PhD | PhD | PhD | MS | MS | MS | MS | MS | MS | | MS |
| NPS Curriculum | Computer & Information Science | Electrical Engineering | METOC | Electronic Systems | Cyber Systems Operations | Space Systems Engineering | Space Systems Operations | Cyber Systems Operations | Cyber Systems Operations | | Cyber Systems Operations |
| Stay in or leave Navy | Leave | Stay | Leave | Stay | Stay | Stay | Stay | Leave | Leave | | |

We note here that the P1601[2] is an Army officer assigned currently at the NPS. We include this participant in the study at the recommendation of our IWC Strategic Contact, because of his extensive, joint, operational cyber experience, and because we have no others to represent the 1840 – Cyber Warfare Engineer community. All other participants are Navy officers. In addition to including background information for each participant, across all 18 questions, we show the mean for quantitative data and mode for qualitative data at the right. For instance, our average participant graduated from college with a 3.3 GPA and was commissioned in 2005, and our modal participant graduated from the US Naval Academy (USNA) with a STEM (Science, Technology, Engineering & Math) major. Further, nearly half of participants had prior enlisted service, and a variety of designators at commissioning is evident. Interestingly, whereas most participants transferred laterally into the IWC from other warfare communities (esp. Aviation, Submarine, Surface Warfare), a third of our participants entered the IWC directly as O1s.

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[2] All participants' responses are anonymous, with unidentifiable codes used instead of names.

Additionally, most participants were not married when commissioned, are married with dependent children currently, and are working currently on graduate degrees. Participants are divided about evenly between O3 and O4 in terms of current rank, and although all five IWC areas are represented, the most common designator is 1810 – Cryptologic Warfare. Finally, you can see from the table that the most common NPS curriculum is Cyber Systems Operations, and four of our nine participants indicate that they are likely to leave the Service when the next opportunity arises.

### 2. Summary Discussion

In this section we summarize, synthesize and integrate our findings from the previous IWC talent study. We begin by building upon the qualitative data analysis pertaining to talent in the IWC, for this informs the first part of our research question directly: What constitutes talent in the IWC? We build then upon analysis pertaining to motivators and dissatisfiers, for this informs the second part of our research question: Why do some talented people choose to leave the Navy while others choose to stay in? Because the reasons for staying and leaving differ somewhat across IWC "tribes[3]," we integrate tribal analysis throughout this discussion. We turn then to the third part of our research question: How can we retain talent in the Navy? The short answer is to a) identify and reward talented people; and *for them* b) emphasize motivators and mitigate dissatisfiers. We finish this section with a short set of recommendations to address each significant retention risk identified through this analysis.

#### ***a. Talent***

What constitutes talent in the IWC? For reference we recapitulate our summary interpretation of IWC talent through second order analysis from the previous study.

> IWC talent appears to have a strong rooting in (IT) technical competence. However, it does not appear to correlate with rank—at least not from the perspective of these (O3 & O4) participants. Indeed, beyond a certain point, there appears to be an inverse correlation between rank and what our IWC participants view as talent. Technical competence as a central root of IWC talent renders many

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[3] The previous study identified the Cyber Warrior Tribe and the Information Communicator Tribe.

operational organizations into meritocracies, where the person best able to solve problems is encouraged and permitted to lead. Interestingly, our Strategic Contact likens this to SEAL and other Special Forces teams.

This technical competence root of talent appears further to require considerable specialization, in addition to intelligence and experience, in order to get things done. Knowledge—much of it acquired before military service, but the rest learned principally on the job—is central to technical competence. This applies particularly as knowledge pertains to IT, but working effectively within a situated organization and environment appears to be important too, as talented people are able to sift through rules and constraints, think past SOPs, push beyond training, and be creative, all the while fitting in. Additionally, talent appears to involve people skills and communication also, with the ability to lead technical workers important in many organization contexts. This requires trust, as well as technological currency, and it appears that the most talented people in the IWC may not be the same ones who (are motivated to) emerge as IWC leaders.

For the IWC as a whole, *knowledge* appears to drive most characterizations of talent. Technical knowledge is required for technical competence, which represents a central root of IWC talent. Hence our grounded understanding of *IWC talent* must begin with technical knowledge. However, such knowledge is not unidimensional and centered solely on technical competence. Rather, technical knowledge and competence are situated within technical organizations where people are required to lead, communicate and fit in. This situated nature of knowledge varies a bit across IWC tribes.

For the Cyber Tribe, for instance, other kinds of knowledge such as world understanding, people skills and communication are noted as important, but they do not appear to be commensurate with technical knowledge and "smart" people's ability to "get things done" within cyberspace. In many respects, this central technical knowledge begins developing long before talented people enter the Navy, and hence this might represent an important characteristic for recruiters and detailers to examine. Notwithstanding the other, arguably important knowledge aspects of IWC talent, our interpretation is that technical cyberspace knowledge is central to talent in the Cyber Warrior Tribe.

For the Communicator Tribe, as a complementary instance, the other kinds of knowledge noted above appear to be more prominent and hence important. Technical competence is central nonetheless, but perhaps not as singly so as in the Cyber Tribe, and it focuses more on information support systems than cyberspace per se. This represents one of the drivers for us to name this tribe “Information Communicator”: communication and associated skills appear to have greater importance than in the Cyber Tribe.

So what constitutes talent in the IWC? IT technical knowledge and the competence that it enables are fundamental, but we find nuanced differences between the cyber and communicator tribes. For the cyber warriors, IT technical knowledge and the ability to take effective actions within cyberspace are central to talent. For the communicators, technical system knowledge and the ability to communicate within the organization are key. For both tribes, talent does not appear to correlate positively with rank.

#### *b. Motivators and Dissatisfiers*

Why do some talented people choose to leave the Navy while others choose to stay in? For reference we recapitulate our summary interpretation of IWC motivators and dissatisfiers through second order analysis from the previous study.

In terms of motivators, the enjoyment of one’s work, having fun on the job, making friendships, leading and mentoring sailors, serving one’s country and shipmates, and being passionate about what one does: these all serve as motivators that help to retain talent. Independence and autonomy are positive motivators also, as are challenge and the ability to have impact. Likewise, learning is important to most participants, as is problem solving, and having interesting and rewarding work is viewed quite favorably, even when people remain very busy and work very hard.

Further, we find that pay and benefits serve as motivators for some, but others complain that the civilian sector offers much better pay and benefits. This may reflect some differences between IWC tribes. Likewise some participants note the adventure, changing jobs and locations, and learning something new every few years as motivational—particularly where more-senior officers provide mentorship and positive leadership—whereas others complain about job rotation frustrating their ability to specialize and pursue their passions, in addition to the disruption of family life by having to deploy and move frequently. Although the career switching costs appear to represent a (probably inadvertent) motivator that helps to retain talent, several participants complain about not being able to pursue their passions, about not being able to specialize and continue in jobs that they enjoy, and about quality of life issues that reduce motivation.

Finally, more-senior officers—through their impact on both enjoyment and command opportunities—appear to play a major role in terms of motivation (and dissatisfaction). Mentorship and making a work environment enjoyable and rewarding exerts a very positive motivational influence. Alternatively, bosses who exhibit favoritism, who create a toxic work environment, and who limit opportunities for good experiences that enhance one's chances of attaining command one day represent a major source of dissatisfaction, which we describe next.

In terms of dissatisfiers, although those in the Cyber Warrior Tribe appear generally to enjoy what they do, many express dissatisfaction with having to leave fun jobs and serve in other roles. Alternatively, although many in the Information Communicator Tribe also express dissatisfaction with the need to rotate out of jobs that they are passionate about, a major source of frustration stems from what they view as an unfair bias against them. Quality of life issues emerge of course, and many participants compare their military jobs, careers and lives with counterparts in the civilian world.

Motivators are relatively consistent across the IWC as a whole, as the enjoyment of one's work seems paramount. Such enjoyment appears to be even more pronounced within the Cyber Warrior Tribe, however, as we detect levels of enthusiasm and feelings of adventure greater among cyber warriors than information communicators. Hence they may enjoy their jobs more, and this helps to set up the corresponding dissatisfier: rotation. In other words, since these cyber warriors appear to enjoy their cyber jobs so much—and they express a strong desire to specialize and continue working cyber jobs—even a standard rotation is viewed negatively. This strikes us as a significant retention risk, particularly given the demand for their knowledge and experience in the civilian sector.

Participants within the Information Communicator Tribe appear to enjoy their work as well, but it is not as pronounced. Leadership and friendship, in addition to pay and benefits, appear to be more motivational to communicators, but some echo the cyber warriors' dissatisfaction with rotation. Indeed, for participants in Space and Oceanography, for two instances, the opportunity to specialize would be viewed very positively, whereas the need to generalize is viewed negatively. As one participant notes, "the Navy is not going to make me a flag officer." For some talented participants—who are not focused solely upon promotion and advancement—forcing them to generalize appears to be highly dissatisfying. This strikes us as another significant retention risk, particularly given the demand for their knowledge and experience in the civilian sector.

We must note also how command and opportunity for advancement arises as both motivator and dissatisfier. In terms of motivation, many IWC participants—regardless of tribe—comment on how they seek command, yet most participants complain about the relative dearth of command opportunities, coupled with a comparative lack of career guidance. This is the case in particular as participants compare themselves with peers in the SWC and other communities, for this affects their community image. As talented people promote and compete for limited milestone and command jobs (esp. at O5 and even more so at O6), unless the enjoyment of one's job can overcome the frustration with lack of advancement opportunities, we see a significant retention risk, particularly given the demand for their knowledge and experience in the civilian sector.

Many participants, across both tribes, view their relationships with more-senior officers as highly important, and the nature of such relationships can be motivational or dissatisfying. It is difficult to assess how many "good" motivational bosses it might take to overcome the dissatisfaction of one "bad" one, or vice versa, but it seems that if participants are exposed repeatedly to dissatisfactory experiences induced by toxic leadership, then this will lead them to leave the Navy. This strikes us as a significant retention risk, to the extent that talented people are exposed repeatedly to bad bosses. Alternatively, this strikes us also as a significant retention motivator, to the extent that talented people are exposed repeatedly to good ones.

Finally, the familiar quality of life issues impact retention clearly. This is not a new story, but when talented people compare their quality of life in the Navy with what they could experience in the civilian sector, it represents a retention issue meriting ongoing study and consideration, particularly given the demand for IWC knowledge and experience in the civilian sector.

So why do some talented people choose to leave the Navy while others choose to stay in? The enjoyment of one's work is paramount, but we find nuanced differences between the cyber and communicator tribes. For the cyber warriors, who appear to enjoy their cyber jobs especially much, being able to specialize and continue with cyber jobs seems likely to keep them in the Navy, whereas the requirement to generalize and rotate into less enjoyable jobs seems likely instead to push them into the civilian sector. For the communicators, the opportunity to either specialize or reach command seems key to keeping them in the Navy, whereas if unable to do either, they seem likely instead to leave for civilian jobs. For both tribes, situated characteristics such as motivational versus toxic leaders and quality of life issues must balance with other motivational and dissatisfying factors.

To summarize, we identify the four significant retention risks listed in Table 2.

**Table 2. Significant IWC Retention Risks**

| **Retention Risk** | **Vulnerable Population** |
|---|---|
| Rotation out of cyber jobs | Cyber warriors |
| Generalization through job breadth | Information communicators |
| Dearth of command opportunities | All IWC |
| Repeated exposure to toxic leaders | All IWC |

### *c. Talent Retention*

How can we retain IWC talent in the Navy? The short answer is to a) identify and reward talented people; and *for them* b) emphasize motivators and mitigate dissatisfiers. Far from a glib response, we offer this sincerely and as a direct outcome of the preceding discussion. Through this study, we understand better now what constitutes talent in the IWC, and we see how it varies across tribes. This should enable us to identify talented IWC officers more easily, and hence to assess the relative retention risks associated with these talented people. Further, we also understand better the most important motivators and dissatisfiers for IWC officers, which we can interrelate to both significant retention risk and vulnerable population. Thus, where we find talent and retention risk, we should act.

### *d. Recommendations*

So what should we do? Our recommendations address each retention risk in turn. First, regarding the risk stemming from rotating cyber warriors out of cyber jobs, we could consider an alternate career path for talented officers who do not seek command. This could potentially be set up as a deliberate choice that a talented officer is allowed to make, through which he or she expressly indicates disinterest in command and accepts the likely result that O4 or O5 will be the highest rank achievable. In return, such officers would be permitted to "homestead" in cyber jobs—perhaps rotating across *cyber* billets—for the balance of their careers[4]. This could have three beneficial effects: 1) such homesteaded cyber officers would develop greater cyber knowledge, skill and experience; 2) the Navy would increase its ability to retain these talented people; and 3) the limited number of milestone and command billets—which represents another retention risk—would face less competition. Of course, much work would be required to implement a plan along these lines, and it is unclear what impact it

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[44] Although this recommendation emerges through analysis of cyber warriors, it could potentially be applied broadly to other IWC tribes, and perhaps to other warfare communities across the Navy. The issue centers on how people's job enjoyment contributes positively to their decisions to stay in the Navy. If talented people—even beyond the IWC—are given the option of "homesteading" in jobs that they enjoy, then they might become more likely to stay.

would have upon the detailing process, but it could potentially help to keep talented information warriors from leaving the Navy.

Our recommendation to address the second significant retention risk is similar. The only difference is that talented people who would prefer to become SMEs in some relatively narrow area (e.g., concentrate on Space) outside of cyber would be permitted to make a deliberate choice to specialize and give up command opportunities. Indeed, our recommendation addressing cyber warriors above could be subsumed effectively into this idea, but clearly all of the same implementation details and unclear impacts would apply. As a note, in this study we look only at the IWC, but if other Navy warfare communities experience similar issues, then the kinds of recommendations proposed here could offer potential to address retention risks throughout the Navy. We address this topic through the present study below.

Third, regarding the risk stemming from the dearth of command opportunities, the recommendations above (i.e., an alternate career path for talented officers who do not seek command) could potentially limit competition for the limited number of milestone and command billets that are available. Moreover, we could look further at the number of people associated with various commands and consider breaking some very large commands into smaller parts. This could accommodate more officers seeking command.

A related issue pertains to what some IWC participants view as unclear career guidance and pathways. We’re uncertain whether such participants simply do not understand the career progression—which implies that IWC leaders should endeavor to elaborate and explain it more clearly—or whether the relatively inchoate IWC could benefit from a more detailed and standardized career roadmap, similar to those enjoyed by SWOs, aviators and officers in other warfare communities. We leave this as a topic for future research.

Finally, regarding the risk stemming from repeated exposure to toxic leaders, command climate surveys represent a good start to identifying leaders who dissatisfy people in their organizations, and perhaps a portion of every leader’s fitness report should include a specific element to summarize command climate survey results. This is very similar to how university professors are evaluated in terms of teaching: professors assign grades to students based upon their performance on exams and other coursework, but students also assign course evaluations to professors based on *their perceptions* of teaching efficacy.

Additionally, since we seek to focus in particular upon *talented* IWC personnel, once they have been identified, perhaps we could explore avenues for giving them access to more-senior officers above their direct superiors. Although this risks interrupting the unitary chain of command in some respects, such access could be limited only to infrequent and important issues (e.g., career guidance, extreme grievance). The idea is to address and correct toxic leadership before it can dissatisfy a multitude of talented people.

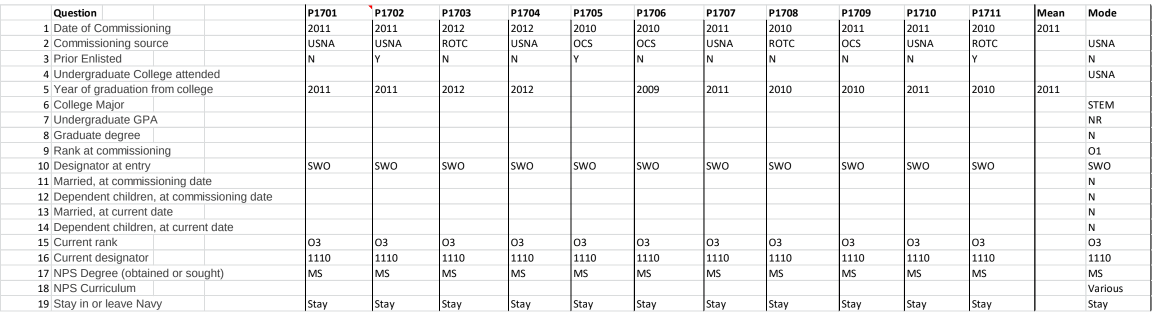
## C. SWO STUDY RESULTS

In this section we report key results from the SWO study. We begin by summarizing the backgrounds of our study participants. We then summarize the key results.

### 1. Participant Backgrounds

In this section we summarize the backgrounds of our SWO study participants. The corresponding data are collected through the background questionnaires noted above and included in Appendix A of the previous study for reference. The participant background information is summarized in Table 3. To help preserve anonymity, we have stripped a few fields from the table as presented, yet we include mean and mode summaries where available and appropriate, which help to characterize the sample frame as a whole. We also refer to participants via anonymous symbols (e.g., P1701) instead of their names.

**Table 3. SWO Participant Background Information**



| | Question | P1701 | P1702 | P1703 | P1704 | P1705 | P1706 | P1707 | P1708 | P1709 | P1710 | P1711 | Mean | Mode |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Date of Commissioning | 2011 | 2011 | 2012 | 2012 | 2010 | 2010 | 2011 | 2010 | 2011 | 2011 | 2010 | 2011 | |
| 2 | Commissioning source | USNA | USNA | ROTC | USNA | OCS | OCS | USNA | ROTC | OCS | USNA | ROTC | | USNA |
| 3 | Prior Enlisted | N | Y | N | N | Y | N | N | N | N | N | Y | | N |
| 4 | Undergraduate College attended | | | | | | | | | | | | | USNA |
| 5 | Year of graduation from college | 2011 | 2011 | 2012 | 2012 | | 2009 | 2011 | 2010 | 2010 | 2011 | 2010 | 2011 | |
| 6 | College Major | | | | | | | | | | | | | STEM |
| 7 | Undergraduate GPA | | | | | | | | | | | | | NR |
| 8 | Graduate degree | | | | | | | | | | | | | N |
| 9 | Rank at commissioning | | | | | | | | | | | | | O1 |
| 10 | Designator at entry | SWO | SWO | SWO | SWO | SWO | SWO | SWO | SWO | SWO | SWO | SWO | | SWO |
| 11 | Married, at commissioning date | | | | | | | | | | | | | N |
| 12 | Dependent children, at commissioning date | | | | | | | | | | | | | N |
| 13 | Married, at current date | | | | | | | | | | | | | N |
| 14 | Dependent children, at current date | | | | | | | | | | | | | N |
| 15 | Current rank | O3 | O3 | O3 | O3 | O3 | O3 | O3 | O3 | O3 | O3 | O3 | | O3 |
| 16 | Current designator | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | 1110 | | 1110 |
| 17 | NPS Degree (obtained or sought) | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | MS | | MS |
| 18 | NPS Curriculum | | | | | | | | | | | | | Various |
| 19 | Stay in or leave Navy | Stay | Stay | Stay | Stay | Stay | Stay | Stay | Stay | Stay | Stay | Stay | | Stay |

This represents a very homogeneous sample. All participants are Navy officers. All were commissioned between 2010 and 2012. All have achieved the rank O3, have completed their SWO DivO tours, have been selected for Department Head tours, are pursuing graduate degrees at the NPS (spanning a variety of curricula), and intend to stay in the Navy. These appear to be the kinds of people that the Navy values and would like to retain. Their thoughts, experiences, needs and considerations should thus be very relevant and insightful in the present study.

Looking at the mean (for quantitative data) and mode (for qualitative data) shown at the right of the table, we see that our average participant was commissioned in 2011, with most coming from the US Naval Academy (USNA). Only a few of these officers were prior enlisted, and although we do not reveal each participant's undergraduate institution or major (for privacy reasons), all were commissioned (as O1 SWOs) right after college. Nearly all were unmarried and without children when commissioned, and most remain single and childless.

### 2. Summary Discussion

In this section we summarize, synthesize and integrate our findings from the previous study. We begin by building upon the qualitative data analysis pertaining to talent in the SWC, for this informs the first part of our research question directly: What constitutes talent in the SWC? We build then upon analysis pertaining to motivators and dissatisfiers, for this informs the second part of our research question: Why do some talented people choose to leave the Navy while others choose to stay in?

We address in turn the third part of our research question: How can we retain talent in the Navy? The short answer is to a) identify and reward talented people; and b) emphasize motivators and mitigate dissatisfiers. This first part of this answer is more challenging than the second, for it remains difficult to identify talented SWOs *systematically*, especially during their first sea tours as JOs. After reviewing a draft of this report, our Strategic Contact summarizes:

> My Chief concern is that … you seem to gloss over the true difficulty of recognizing talent, both at a unit level and at a Navywide level. As much as the young folks don't want to admit it, for their first 2-4 years, they all kind of "look alike." To be sure, there are a few true superstars whose innate potential is immediately recognizable, and there are a few duds who never should have been commissioned in the first place. But the great mass of JOs – and I would put myself in this category – take time to learn and develop. Some officers bloom a little more quickly, but some later bloomers show remarkable performance once "the light switch turns on."

We revisit this in our set of recommendations to address each significant retention risk identified through this analysis, and we incorporate some brief discussion of insights with respect to the ongoing performance evaluation transformation process.

#### ***a. Talent***

What constitutes talent in the SWC? We find a combination of personal attributes and evidence of performance, especially aboard ships at sea. Toward the former, for several instances, we recall comments from the previous study such as, "desire; assume responsibility; humility; want to learn; ask questions" (P1701); "dynamic; adaptable; innovative" (P1704); and "people have a spark, a fire about them; unique … they care; people care about the job and other people" (P1705). From this we see that a talented SWO appears to be highly motivated, humble, caring and adaptable.

Confirmingly, we see some of these same attributes noted as important by senior Navy leaders. In terms of high motivation, for instance, the CNO writes this regarding attributes of Navy leaders (Richardson, 2017, p. 2):

> In the US Navy, at this point in our history, we need leaders with this drive. It's an important question to ask yourself: are you driven to pursue the theoretical limits of performance? If so, you could be a Navy leader. If you can't find the relentless drive to inspire others and be the best in the world, then leadership in the U.S. Navy is not for you. The security of the nation is too important.

In this same document, we find other references to motivation, humility, caring and adaptability also:

> Effective Navy leaders demonstrate a deliberate commitment to grow throughout their careers. They work from a foundation of humility, embracing our core values of honor, courage, and commitment. They behave with integrity, accountability, initiative and toughness. Navy leaders commit to improving the competence and character of themselves and their teams. They inspire their teams to learn so as to achieve their best possible performance. In our Navy, leaders can take full advantage of a rich combination of formal schools, structured on-the-job training and experience, and self-guided education (p. 1). … When they win, [great leaders] are grateful, humble, and spent from their effort (p. 2).
>
> First and foremost, Navy leaders must have a burning drive to develop their teams to consistently and sustainably deliver maximum performance. Competence and character are so tightly intertwined that they must be strengthened together. The Navy has a robust program of schools, on-the-job training, and self-guided learning. By executing this framework, our Navy will produce leaders and teams who learn and adapt to achieve maximum possible performance, and who set and maintain high standards, to be ready for decisive operations and combat (p. 8).

Toward the latter, we note some skills such as “good time management” (P1704), “pool solutions with others” (P1705), “learning” (P1703), and “flexibility and adaptability” (P1702), but (job) “performance” (aboard ships at sea) appears to be the central aspect of SWO talent. For several instances, we recall comments such as, “performance and teamwork” (P1706), “working with people and getting the job done” (P1711), “people accomplish what they need to aboard ship” (P1710), “lead and perform the job” (P1707), and “I did my job; I’m a good ship driver” (P1709). We learn further that SWO JO job performance at sea involves both Watchstander and Division Officer roles (P1707 & P1708), which require different skills and reflect different aspects of talent. Nonetheless, “ship driving performance meant more than DivO” (P1709), and as noted by many participants, “hard work” is very important too.

Hence *a talented SWO is highly motivated, humble, caring and adaptable, and he or she is able to work hard, cooperate with others, and do the job aboard ship, living and working at sea for extended periods of time*.

Particularly for this sample frame of relatively junior officers (O3), such view of talent seems highly appropriate. Early in their careers, professional skills are key (Strategic Contact, 2018), and they are judged in large part based on their ability to absorb large volumes of professional information. Such ability is rated as highly important by Flag Officers as well (Naval War College, 2017), and their ability to learn reflects the kind of high velocity learning exhorted by the CNO (Richardson, 2016).

Returning to the comments made by our Strategic Contact, this emergent characterization of talent is somewhat retrospective, however, and it reflects the junior perspective of our participants. We say "retrospective," because it seems difficult to identify talent along the lines of this characterization until a JO has worked aboard ship for some time. This makes it difficult to identify SWO talent *before* JOs start working aboard ship, hence the challenge of giving the most talented people the best assignments persists. We address this in part through our recommendations below.

As such, being observed and evaluated by ship CO/XOs—who presumably know talent when they see and work with it—appears to represent a very appropriate way to identify talent, and we would hope to see such identification reflected on FITREPs. As noted below, however, such hope may not be fulfilled to the extent necessary, and our recommendations address the evaluation process in part below as well.

Further, because all of our study participants represent talented *JOs*, it remains unclear which if any of them will continue to progress and demonstrate talent at more senior ranks. As our Strategic Contact admits and emphasizes above, "Some officers bloom a little more quickly, but some later bloomers show remarkable performance once 'the light switch turns on.'"

#### ***b. Motivators and Dissatisfiers***

Why do some talented people choose to leave the Navy while others choose to stay in? Since this study focuses on relatively junior officers, most of which are moving now toward serving as Department Heads, our inferences pertain principally to JOs, but they may apply to more senior SWOs also. As noted previously, nearly all of our participants are motivated by the “fun” associated with the SWO life and profession. Driving and fighting a ship, for instance, is apparently highly motivational for many SWOs. Other factors such as overseas travel and adventure, stability, security and money appear to motivate also, and we see camaraderie, service and leadership as motivational too, but fun appears to dominate this discussion. SWOs appear to be highly motivated by career advancement as well, which requires high performance levels over extended periods of time.

Despite such motivators, however, many talented SWOs decide not to stay in the Navy. Much of the decision appears to center on the kinds of jobs they get assigned, their early experiences aboard ship, and life at sea. Regarding JO jobs, those participants who were able to serve in a DH or equivalent capacity report considerable satisfaction with the corresponding challenge and opportunity, as do those serving as Flag Aide or otherwise able to interact with high level officers. In contrast, those who are not assigned to “real jobs” report dissatisfaction.

As a note, such assignment to “made up jobs” stems from a relative surplus of JOs aboard ship. Under the current system (esp. given current retention rates), in order for the Navy to have a sufficient number of qualified officers to serve in Department Head billets, a comparatively large number of Ensigns must be recruited and assigned to sea tours, which means that some ships have more JOs than necessary working aboard them. This relative surplus contributes to perceived berthing disparities also: ships are not designed with enough staterooms to accommodate all of their current officers. We address these issues in our recommendations below, but briefly, if retention rates can be increased, then some of these issues will abate on their own.

In terms of JO experience, interactions with Chiefs can be either a motivator or dissatisfier, depending largely upon how well the JO feels supported by each Chief, which apparently can vary widely across divisions, departments, ships and commands. Interactions with Detailers can be either a motivator or dissatisfier also, depending similarly upon how well the JO feels supported, and which apparently can vary widely too. Likewise with CO/XO interaction: this can motivate or dissatisfy as well, depending in part upon guidance and mentoring, but centering largely on the command climate.

Finally, life at sea has some motivational aspects, for this is where the "fun" takes place, but sea time aboard ship appears to be a relatively strong dissatisfier. As noted above, life at sea is a central part of the SWO profession, and "more sea time is better (professionally) overall" (P1703). However, several aspects of such life appear problematic, particularly for SWOs with or contemplating families, and it appears that many SWOs must choose between career and family, especially the women (due to pregnancy). Even for single officers not contemplating families (at this time), we note the high stress, long hours and perceived disparity between male and female berthing opportunities as driving much dissatisfaction.

To summarize, we identify the seven significant retention risks[5] and underlying issues listed in Table 4. Briefly, JOs seek assignments to challenging jobs, especially those that entail interaction at relatively higher levels (e.g., DH and Flag Aide roles), and they thrive on feeling that they are providing value to the organization. This is the opposite of working "made up jobs." They also seek Chiefs who are willing to support and train them, and they want to see consistency across the diversity of Chiefs assigned to them in different divisions, departments, ships and commands. Similar goals and wants apply to Detailers, whom JOs expect to support and provide them with opportunities in terms of job assignments, and they look for greater transparency as a step toward increasing trust.

CO/XO interaction is critically important too, as JOs seek guidance and mentoring from their senior officers, and whereas these relatively young officers can thrive in positive command climates, toxic leadership and inhospitable climates can drive even the most talented people away. Careers are very important to JOs, who are willing to make big sacrifices in terms of hard work and long hours away from friends and families while at sea. However, a perceived lack of command opportunities troubles many of our participants—with several even seeking *early* command—many of whom are troubled by perceived FITREP inequalities also.

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[5] In contrast with our prior investigation into the Information Warfare Community (IWC), the allure of jobs, salaries and benefits in the civilian sector does not arise as a notable retention risk in the present study. This could stem in part from how IWC jobs translate *directly* to civilian counterparts, both of which are in great demand and grossly understaffed. It could stem also from the relative novelty and current importance of Cyberspace and corresponding jobs with respect to seamanship.

**Table 4. Significant SWO Retention Risks**

| **Retention Risk** | **Underlying Issues** |
|---|---|
| Not assigned to challenging jobs | Level of interaction<br>Feeling of value to the organization |
| Unfavorable interaction with Chiefs | Lack of support & training<br>Perceived inequality |
| Unfavorable interaction with Detailers | Lack of support & opportunity<br>Mistrust |
| Unfavorable CO/XO interaction | Lack of guidance & mentoring<br>Inhospitable command climate |
| Lack of command opportunities | Early command<br>Perceived FITREP inequality |
| Family planning | Rigid career timeline<br>Pregnancy |
| Dissatisfaction with sea life | High stress, long hours & “fallen angels”<br>Perceived berthing disparity |

Even so, family planning and dissatisfaction with sea life present two, dominant retention risks. Many JOs seek greater flexibility in their career timelines—which is addressed in part through the multiple career track options that have become available recently—but they don’t want to sacrifice their promotion and command opportunities to do so, and many JOs wish to start families at some points in their careers. The high stress and long hours associated with life at sea can “burn people out.”

### *c. Talent Retention*

How can we retain SWC talent in the Navy? The short answer is to a) identify and reward talented people; and b) emphasize motivators and mitigate dissatisfiers. Far from a glib response, we offer this sincerely and as a direct outcome of the preceding discussion. Through this study, we understand better now what constitutes talent in the SWC. In some sense, this should enable us to identify talented SWO officers more easily, and hence to assess the relative retention risks associated with these talented people.

However, as noted above, identifying talent remains a challenge, particularly prospectively for JOs. We have several indicators that CO/XOs recognize talent at sea, but it remains difficult to identify talented JOs in advance of their sea tours. Moreover, we note also how the FITREP may not be recording *talent* well. Indeed, the current performance evaluation process is highly rewarding to some but distressing to others, even in our sample frame of talented officers.

Further, we also understand better the most important motivators and dissatisfiers for SWOs, which we can interrelate to significant retention risks. Indeed, several important factors (e.g., interaction with Chiefs, interaction with Detailers, interaction with CO/XOs) can be either motivational or dissatisfactory. Hence we need to understand which aspects of such factors are motivational and how to accentuate them. We need to also understand which aspects of such factors are dissatisfactory and how to mitigate them. However, as noted above also, not every officer blooms metaphorically at the same time, and the late bloomers may turn out to be our most talented mid and senior level leaders, hence we should move forward judiciously in terms of preferential treatment. Nonetheless, where we find talent and retention risk, we should act.

#### ***d. Recommendations***

The question remains: What should we do? Our recommendations address each retention risk in turn. First, regarding the risk stemming from SWOs assigned to jobs that are not challenging, not every SWO is equally capable and motivated, so one approach is for the most important and challenging jobs to be assigned prudently to the most capable and motivated people.

Step one—albeit arguably problematic—is to assess talent in advance of JOs’ sea tours. We need to know whom our talented JOs are, and it could be helpful to gain additional insight into talent before their first shipboard assignments. As noted above, it is unclear how to gain such advance insight, however, for SWO talent is situated in the shipboard environment. Perhaps some kind of shipboard exercise, simulation or other assessment—producing validated indicators of SWO talent aboard ship—can be accomplished during BDOC (Basic Division Officer Course), for instance, or we might be able to identify some other performance markers stemming from SWO testing, commissioning sources or like venues. This could help to mitigate the issue of talented officers being assigned to unfulfilling jobs in the first place. We leave this for future research, however, for identifying or developing such exercises, simulations, assessments and markers is beyond the scope of this study.

Additionally, early identification of talent aboard ship may find value. COs, XOs and DHs can identify early—say after three months at sea—talented JOs who are stuck in unfulfilling jobs, and likewise, they can identify untalented SWOs who are performing challenging jobs. Hence these ship leaders can effect some early job reassignments if they choose to. Navy leaders are empowered to do this now, and in practice, many of them probably do, but the question of consistency across various ships, commands and organizations remains. This may represent a promising venue for examining and promulgating policy, perhaps even Navy-wide.

However, such early identification and preferential treatment may have negative repercussions. In addition to resentment from shipmates who are excluded from the "early talent club," which seems highly likely to emerge, our Strategic Contact identifies another potential issue: "We need to be very careful that 'Talent Management' doesn't turn into a popularity contest where the rich get richer and the poor get poorer. This is how I perceive the Air Force system – they pick their potential Generals very early and give them preferential treatment throughout their careers. I don't think that is healthy for their organization, though."

Indeed, talent in the SWC today appears to have a strong dimension that focuses on past and current performance, which is rewarded strongly and directly. However, talent appears also to have a complementary dimension pertaining to future potential: an officer who performs well on his or her JO tours may not necessarily perform well at higher ranks on later tours (e.g., DH, XO, CO).

Moreover, different skills, dispositions and backgrounds may contribute more to performance as a JO than in more senior ranks. Thus, even JOs who may not be exhibiting high performance levels in their early sea tours should probably be given comparable exposure to challenging jobs and not culled or separated too early in their careers. This would acknowledge their future potential and promote equity, which would likely be highly prudent given our systematic focus on past and current performance instead of future potential.

Further, we could implement more consistently a policy of reassigning JOs to different jobs periodically during their sea tours. This could be accomplished informally or via formal rotation program, and it could be accomplished via assignments to different ships or even aboard the same ship throughout an entire JO tour. In either case, in addition to giving COs/XOs/DHs the opportunity to observe junior officers across a variety of roles, demands and requirements, it may benefit also by exposing JOs to multiple shipboard jobs—thereby limiting the length of time, if any, that talented people remain stuck in unfulfilling jobs.

This “DivO shuffle” (P1701) is apparently common on some ships but unpracticed on others. Perhaps guidance can be circulated among Commodores that rotation of talented JOs could be deemed as “best practice” for their first sea tours. This would require some additional planning by the CO/XO, who would need to help mitigate and correct any adverse mission impacts stemming from the increased internal turnover caused by such job rotation, but it may help to mitigate the retention risk stemming from unfulfilling job assignments.

As hinted above, another approach would be to keep officers on the same ships throughout their entire JO tours. Although they would serve only on a single ship, which they would come to understand very well, they could rotate systematically through different, increasingly challenging jobs as they gain experience and increase in rank. Newly reporting Ensigns, for instance, could be allowed—even encouraged—to have no formal responsibilities aside from earning their qualifications during the first part of their initial tours, or perhaps they could be given some collateral duties that would otherwise distract others with “real jobs.” This could potentially help alleviate the need to assign so many JOs to “made up jobs,” and it would likely accelerate qualification and increase both readiness and safety aboard ship. An approach along these lines would require considerable advance thinking and planning, which is beyond the scope of our study to accomplish, but it may offer potential.

Second, regarding the risk stemming from unfavorable interaction with Chiefs, perhaps we could set and enforce expectations of mutual cooperation and respect between JOs and Chiefs. Effective JO-Chief interaction is important to successful operations in every division aboard ship. However, not all Chiefs appear to be equally supportive of the Division Officers (DivOs) for whom they work. Some inherent personality mismatches are likely to be inevitable, and some JOs and Chiefs may be comparably more or less motivated to learn from and teach one another, respectively. Nonetheless, JOs could be taught and motivated to humble themselves and seek to learn from Chiefs, who in turn could be taught and motivated to make themselves available and strive to support DivOs. To the extent that such teaching and motivation fall short, and talented JOs continue to feel unsupported by their Chiefs, this appears to reflect a command shortcoming, which could be addressed at a different level (e.g., the Commodores).

Further, as above, if COs and XOs are evaluated in part on the basis of how well they accomplish and lead mutually supportive relations between DivOs and Chiefs, then their incentives will likely align well with our objective of identifying and retaining talent. This appears to represent a matter of culture and policy. Perhaps “surviving” one’s raw encounter with unhelpful Chiefs represents a part of JO initiation—which COs, XOs, DHs and others likely endured during their JO tours, and which they may be likely to condone as a perpetuation of hazing—but to the extent that it’s unproductive and contributes to losing talent in the organization, such cultural practice may have outlived its utility. As a matter of policy, ship commanders must have the authority to ensure that Chiefs support their DivOs, and we recommend that they be encouraged to use it.

Third, regarding the risk stemming from unfavorable interaction with Detailers, the two prominent issues noted above require different approaches. The first, lack of support and opportunity, appears to center on some combination of inadequate resources and insufficient incentive to support SWOs to the level expected. Although budgetary constraints may obviate opportunities to increase Detailer staffing, it may be possible to increase the motivation for Detailers to support and communicate with SWOs.

For instance, perhaps we could set and enforce expectations of responsive interaction between JOs and Detailers. Many JOs express dissatisfaction with Detailer support and mistrust of the detailing process. A key manifestation of inadequate support appears to stem from unresponsive communication. If Detailers were instructed to interact more responsively, then at least the SWOs may not feel as though they are being ignored. This could be as simple as business rules, stating, for instance, that every SWO email will be responded to within two business days. A similar rule could state that an email will be sent to a SWO within two business days of receiving a telephone call, with such email suggesting at least three possible days and times within the same week to schedule a telephone conversation.

Failure on the part of Detailers to adhere to such business rules would be grounds for the offended SWO to escalate his or her communication to the offending Detailer’s superior officer, who in turn would be bound by the same business rules. This all assumes, of course, that the SWOs in question have begun their Detailer interactions at the appropriate timepoints and are not experiencing difficulties due to their own procrastination and inadequate planning or action. This assumes also, clearly, that adequate resources can be made available to support the likely increase in Detailer manning that would be required.

The second, mistrust, appears to center on an absence of process transparency and possible goal misalignment. Were SWOs able to understand the detailing process better, and were they able to attain greater visibility into the larger view of jobs needing to be filled, then they may feel more trusting toward the detailing process and people. Although a SWO can have faith that the Detailer is doing his or her best to balance the needs of the individual with the needs of the Navy, some increased transparency may help to reduce his or her level of anxiety

(P1701). This could potentially complicate the Detailers' jobs, however, and it would likely increase the level of communication required of the already beleaguered detailing staff, but if such change could decrease SWOs' dissatisfaction with the process, then it may contribute toward their retention.

Fourth, regarding the risk stemming from unfavorable CO/XO interaction, perhaps we could set and enforce expectations of increased mentoring and coaching by COs and XOs. Many JOs perceive that their leaders only give orders and provide evaluations of recent performance, reflecting negligible motivation for sharing highly valued guidance and experience. This represents a challenging issue, however. COs and XOs are military commanders, with serious missions to accomplish in an inherently hazardous work environment. They require considerable latitude to do so in ways that make sense and that fit their leadership styles and experience bases. Nonetheless, a lack of guidance and mentoring, combined with toxic leadership and inhospitable command climate, is a strong dissatisfier for talented SWOs, and even one toxic CO/XO could potentially drive dozens of talented subordinates out of the Navy. Of course, COs and XOs are busy people, and burdening them with additional tasks and expectations could become counterproductive and undermine their primary objective: effective command at sea.

An alternate and possibly complementary recommendation centers on metaphoric "crosspollination and mentorship" for young JOs (P1704). This could be as simple as inviting the CO from a different ship in the DESRON to host a leadership question and answer session for an hour, or inviting one or more Department Heads from other ships to offer training or simply expand the range of social interaction with wardrooms of different ships. The idea is that young JOs could gain exposure to a wider variety of leaders—and leadership styles—from different ships, and hence benefit from the indirect, cross-command insight, mentoring and coaching that could emerge.

Another recommendation centers on identifying talented JOs and providing them with extended access. CO/XOs, for instance, could be encouraged (e.g., by their bosses) to treat the most talented JOs to greater guidance and mentoring. As noted above, however, such preferential treatment could risk upsetting other officers who do not benefit accordingly, a problem that could be exacerbated through inaccurate identification of talent. Indeed, some of our study participants feel as though CO favoritism represents an issue already. We leave to future research the task of examining this issue and the associated recommendations more closely.

Fifth, regarding the risk stemming from lack of early command opportunities, this represents a challenging issue also, for there are only so many command billets available, and they are probably exceeded greatly by the number of officers seeking them. There are likely more opportunities for early command ashore, but they would take SWOs away from their essential time at sea.

One participant suggests, short of buying a bunch of tiny ships, seeking to instill a “culture of command” early in the wardroom:

> One of my COs on my first ship had what he called the ‘100% responsibility rule,’ meaning that he expected everyone to take total responsibility for everything that was going on around them. It had a way of inspiring initiative in everyone. Leading petty officers felt energized to lead their Sailors. Junior officers felt like they could take charge of their divisions, instead of just being administrators. It was a semantic shift, but it had a huge impact on command climate.

Alternatively the other aspect of dissatisfaction with command opportunities centers on perceived FITREP inequality, for poor evaluations are likely to limit a SWO’s promotion and (eventually) command opportunities. As noted above, the current system appears to be working well for many of the talented participants in our study, and a substantive change to this system (esp. that stopped favoring these participants) may drive such officers away from the Navy. Nonetheless, to the extent that officer evaluations are not based on merit, there appears to be a problem, and to the extent that the current evaluation process is failing to identify, promote and retain our most talented people, such process is likely to be ready for reexamination. Indeed, at the time of this writing, formal efforts to transform the performance evaluation process have been underway for over two years (PET Committee, 2017; NPC PERS3, 2016).

Sixth, regarding the risk stemming from the rigid career timelines and family planning difficulties, the recently expanded number of career tracks appears likely to help mitigate some dissatisfying effects, and the SWC should be congratulated for devising and implementing it. Such expansion offers much greater latitude, flexibility and timing to officers, who can take greater control over their career paths. Nonetheless, life at sea—and away from family—is hard, yet it is central to the SWO profession and will likely persist as a source of talent loss.

Perhaps we can think of ways to lessen the loss of time with friends and families while at sea. In our fathers' and grandfathers' Navy, people may have been content with reading books, writing letters, and exchanging sea stories with shipmates. In this age of ever increasing network bandwidth and computer connectivity, however, many JOs seek current, online and synchronous social interaction. Toward this end, even the smaller ships could be equipped with higher capacity networking capability, for instance, which would enable people aboard ship to have richer and more frequent communications with friends and families back home.

Rich video conference, chat and social network capabilities are relatively common and inexpensive today, and life aboard ship could become less onerous and burdensome if people could stay up to date and interact with friends and loved ones using such capabilities. Streaming current music, games, movies and television shows could enhance people's experience at sea also. Of course, this would require a budgetary commitment to equip ships as such, and people aboard ship would need to have sufficient time away from job responsibilities to enjoy activities along these lines, but enriching people's off-duty time could serve us well in terms of retaining talent.

Perhaps we can think also of ways to increase the number and quality of activities that are available aboard ship. The author has spent some time living and working aboard warships, both in port and underway. The author has also spent some time living and vacationing aboard cruise ships, both in port and underway. Aside from occurring aboard ships, the two experiences have very little in common. Living and working aboard a warship has a cold, Spartan, industrial feel to it, without a wide range of activities outside of working, eating, exercising and sleeping. Living and vacationing aboard a cruise ship has a warm, luxurious, welcoming feel to it, and the wide range of activities enables extensive diversion, enjoyment and entertainment.

Warships and cruise ships clearly have different missions and are designed accordingly, but even small efforts to make life at sea more enjoyable and accommodating aboard warships could go a long way. Consider, for instance, the availability of more diverse, healthier meal options (Dare we use the word "cuisine"?) or drinking a glass or two of wine or beer at the end of the day (Such practice is permitted in some navies.). Either could represent a welcome ritual, and a commitment to adequate downtime and sleep aboard ship could pay dividends—in terms of talent retention and safety alike—too.

Pregnancy is raised as a retention risk too. Perhaps we can work to support pregnant officers better. The risk of losing talented people to pregnancy is specific to women, who may become unable to finish their sea tours, and who may fear becoming uncompetitive relative to their peers. Some women are able to plan children around the pockets of shore duty that are sprinkled into their career timelines, but such pockets may or may not coincide with the women's family plans or their metaphoric biological clocks, and some talented female officers may fear jeopardizing their careers or simply leave the Navy out of frustration.

The Career Intermission Program represents one approach to addressing this retention risk, for it affords service members time to start families. However, apparently it also requires a transfer out of active duty and a pay cut, both of which can be viewed negatively by talented officers. An alternate approach (suggested by one of our participants) would propose a "yeargroup rollback system" for female officers looking to have children earlier than the pockets of shore duty noted above: "If a female JO were to get pregnant during or before a sea tour, she could be sent to shore duty and rolled back a YG to stay competitive.

It would be a case by case detailing process but might offer more flexibility to service women."

A related approach (suggested by another of our participants) would involve an effort to expand Tricare coverage to include fertility treatments for those who delay having kids for family planning: "This would increase the perception that the Navy takes care of its own, especially those who do their due diligence to balance Navy service and career with family planning." Aside from these suggestions, we do not have further recommendations for such a challenging issue, which we leave to future research to address more directly and deeply.

Finally, regarding the risk stemming from dissatisfaction with sea life, which we address in part above, the high stress and long hours associated with life and work aboard ship appear to have both functional and cultural antecedents. Functionally, much time, energy, knowledge, learning, coordination and attention are required to navigate, maintain and fight a ship at sea, and staffing limitations may center on several causes (e.g., limited berthing, budgets, qualified officers available for assignments). Such limitations and causes are difficult to address in the short term, but with some focused attention—at relatively high leadership levels—now may offer promise to help alleviate the corresponding retention risks in the future.

Future ships could be designed to require fewer people and less time to operate and maintain, for instance, or their designs could emphasize additional berthing space. This may also contribute toward mitigating the perceived berthing disparity between men and women, or policy could be modified to allow greater gender cohabitation aboard ship. Future ship designs could also provide for greater network connectivity and entertainment options, perhaps integrating the raw, industrial characteristics of naval fleets with some amenities of cruise lines. This may contribute toward mitigating the perceived burden of life at sea.

Manpower budgets could see some increases, as another instance, if this retention risk is deemed to be sufficiently important, and both recruiting and training pipelines could be expanded, as a third instance, to increase the supply of qualified officers available for assignment. Alternatively, as mentioned above, if we can mitigate some of the dissatisfiers and increase retention rates, then we may not need to recruit so many Ensigns in order to hit our DH targets, and we may be able to train them more thoroughly before their sea tours.

This training point merits some elaboration. JOs entering the Fleet are assigned to their first ships without much formal training. As characterized by one participant (Anonymous, 2017):

> As it is today, the SWO training pipeline does a poor job of preparing junior officers to assume the watch. After a brief two-month introduction at the Basic Division Officer Course (BDOC), they go to their ships for their first tours at sea. Ships, whose necessary focus is meeting operational demands, are saddled with initial training of new SWOs. Consequently, new junior officers are unable to concentrate their efforts on learning seamanship and navigation because their mental efforts are divided among administrative and collateral duties.

Elaborating further, this officer opines:

> The root cause of the SWO community's problems is that operational commands carry the greatest share of the burden for initial training. Ships, whose mission is to deploy in harm's way, must take newly commissioned junior officers from a two-month indoctrination school and turn them into qualified mariners. Further, shiphandling, seamanship, and navigation occupy just two weeks of the … BDOC. As a result, there is no single SWO training pipeline. In practice, there are 203 individual pipelines – one for each surface ship. Warships have become *de facto* school ships, resulting in wide variations in training quality and added risk during real-world operations.

One need to look no further than the 2017 accidents involving the cruiser *Antietam* and destroyers *Fitzgerald* and *McCain* for at least anecdotal support for this opinion. The study participant continues with a corresponding recommendation:

> No pilot goes to their first operational squadrons having never flown a plane. Likewise, no SWO should report to his or her first ship having never taken one to sea. SWOs need more classroom instruction in the fundamentals of seamanship and navigation, reinforced by underway training on yard patrol craft (YPs). With their initial training broadened in length and scope, their time on the bridges of warships will be spent refining already existing skills, instead of learning entirely new ones. This would make junior officers more confident, more competent, and better prepared to take the watch.

Perhaps we can work to train JOs more thoroughly in advance of their sea tours. The relative lack of training represents an important dissatisfier. Other

Navy communities (esp. Aviation, Nuclear) have considerable training pipelines that officers must complete before their first operational assignments and before being entrusted with expensive Navy assets (e.g., aircraft, reactors). In its effort to get JOs out to sea quickly, the SWC may be sacrificing an opportunity to increase SWO competency levels aboard ship and contribute toward talent retention.

We could consider (re)instituting a lengthy formal training program prior to the first sea tour, for instance, or a substantial extension of BDOC may be more efficient, as another instance. We could even consider affording JOs a measure of independent self-study time to begin preparing for shipboard qualifications before the beginning of their sea tours. In any case, the JOs are sending a demand signal for increased training in advance of their first sea tours, and addressing such signal may provide manifold benefits in terms of retention, safety and efficacy.

Finally, shipboard culture is likely very resistant to change, but even somewhat subtle shifts may help to mitigate the associated retention risks. One participant notes how important sleep is to both health and performance: “The SWC has had a stigma about sleeping, with phrases like ‘You look well rested’ becoming an insult underway.” This participant comments further on fitness and nutrition also: “Nutrition is severely in need of review on board ship. … basically reheat and serve these days with a lot more brown food than green food. If we keep saying sailors are our most valuable asset, we should probably treat them that way.” We leave to future research the task of investigating sleep, nutrition, health and performance aboard ship, but anyone who has driven an automobile while tired will likely attest, sleep and safety appear to be connected—probably particularly so on a billion dollar warship.

Of course, much work would be required to implement recommendations along these lines, and it is unclear what impact they would have upon the detailing process, morale, perceived fairness, recruiting, chain of command, retention and other areas. Moreover, some of these recommendations are clearly controversial, and others would increase pressure on already strained budgets. Nonetheless, they offer potential to help to keep talented SWOs from leaving the

Navy. We leave the answers to Navy leaders and policy makers, in addition to topics for future research.

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# IV. RESEARCH INTEGRATION

In this section we work to integrate the previous two investigations toward understanding talent in the US Navy more broadly. To do so, we draw from the studies summarized above, treating the corresponding results as "data" for analysis in this current work; that is, we build upon and integrate the previous results here through a predominately inductive process. We begin by highlighting aspects of the two communities that are largely similar, for these can elucidate opportunities to understand talent more broadly. We continue then by highlighting aspects of the two communities that are considerably dissimilar, for these can illuminate situated and nuanced differences in talent across communities.

## A. SIMILARITIES

In discussing similarities across communities, we begin with common aspects of the research method, for a highly comparable method is employed to investigate both the IWC and SWC. Indeed, aside from some details associated with the sample frame, nearly an exact research method is used for both studies. Hence all study participants are active Navy officers, at or approaching midcareer (i.e., O3 & O4), studying at the NPS, who volunteered to participate in the study and are identified as "talented." This helps to establish commonality across the two communities, for all participants perceive the Navy and talent through a comparable lens.

We also find similarities across communities in terms of how talent is perceived. "Getting things done," for instance, echoes across the two studies as an ability exhibited by talented people, as does the ability and willingness to "work hard." Although the "things" that get done differ clearly across communities, talented officers are able to accomplish their assigned tasks on the job, and they are willing to expend the time and energy to do so. Attributes such as these are likely to apply to all Navy communities in terms of talent.

Characteristics of the jobs that are performed share some common aspects also. Most job knowledge is learned outside of formal education and training venues (i.e., via OJT), for instance, and the ability to perform the corresponding jobs requires considerable domain specific knowledge. Further, officers in both communities perform two kinds of jobs: 1) technical work and 2) leadership tasks. The nature of technical work (e.g., cyber operations vs. driving ships) differs clearly, but the nature of leadership (e.g., leading sailors, leading a division or like organization) appears equivalent. As above, leadership represents an attribute likely to apply to all Navy communities in terms of talent.

Both communities suffer from attrition issues as well, although the underlying drivers appear to differ. For the IWC, attrition stems largely from officer dissatisfaction with having to rotate out of desirable jobs and from Industry demand for skillsets that are directly applicable outside of the Military. Alternatively, for the SWC, attrition stems more from dissatisfaction with life at sea. Similarly, nonetheless, participants from both communities report "fun" jobs, leading sailors, and accomplishing important work as motivators, and talented members from both communities express a desire for more mentoring and command opportunities, along with positive leadership from SOs, as key to their retention. Attributes such as these appear likely to apply to all Navy communities in terms of talent also.

Thus, Navy wide, it follows that we should work to identify, reward and retain officers who are able to accomplish their assigned tasks on the job, and who are willing to expend the time and energy to do so. Likewise, we should recognize that most job knowledge is learned outside of formal education and training venues, and we need to view the importance of leadership across communities. Moreover, to address attrition—which invariably affects all Navy communities to some extent—we should look to ways of making work "fun" for officers, for this can go far in terms of compensating for the long hours of hard work—especially when deployed and away from friends and family. We should look also for ways to increase opportunities for junior and midcareer officers to benefit from mentoring and positive leadership, for toxic leadership is highly likely to exist in all Navy communities, and it repulses talent.

## B. DIFFERENCES

In discussing differences across communities, we begin with variant aspects of the research method employed to investigate the IWC and SWC, for such aspects can highlight community variations. For instance, despite many similarities in sample frames, study participants from the two communities are distinct in terms of homogeneity: IWC participants draw from five distinct professional designators and cohere into two tribes, reflecting considerable heterogeneity, whereas SWO participants exhibit great similarity. This illustrates how many aspects of talent must necessarily be highly situated in terms of an officer's warfare community, profession and job. Clearly one metaphoric size does not fit all in terms of Navy talent, which should be accounted for specifically in performance appraisal (e.g., via FITREP).

Likewise, IWC talent centers on information technology, which arguably changes and advances very rapidly with respect to maritime navigation and warfare. Hence the specifics of talent may be relatively stable and enduring for the SWC yet highly dynamic and ephemeral in the IWC. The SWC also enjoys a very long history and reflects a homogeneous population and rigid career path, whereas the IWC is comparatively very new and inchoate. Moreover, clearly most IWC work is performed on land, whereas the essence of SWO work is aboard ships underway, but a great many IWC jobs require considerable specialization, whereas SWO work appears to require more generalization across jobs. Again, the nature of talent varies in several respects across these communities.

We also find differences in terms of what motivates and dissatisfies talented people from the two communities. For talented IWC officers, being able to homestead in fun jobs or to specialize in areas of interest ranks very highly in terms of motivation. Hence forced rotation across different commands and jobs is highly dissatisfying. Indeed, many such officers appear willing to sacrifice promotion opportunities in return for the ability to remain performing the same, satisfying jobs over extended periods of time. Intrinsically motivated personnel such as these require different retention tactics than those motivated extrinsically. Talented IWC officers also enjoy high demand in terms of industry jobs.

For talented SWOs, in contrast, there are clear aspects of their jobs and worklives that are enjoyable, but we do not detect a similar interest in job homesteading or specialization. Nor do we observe similar willingness to sacrifice career opportunities. Quite the opposite, the talented SWO officers participating in our study appear to be highly career focused, and many express considerable anxiety over the performance evaluation process. Extrinsic motivation through bonuses, promotions and command opportunities appears to be the driving retention tactic for this community, even though talented SWOs may not have comparable skillsets driving high demand in terms of industry jobs.

# V. CONCLUSION

Over the past two years we have investigated how to understand and retain talent in two Navy Communities: Information Warfare and Surface Warfare. Both studies have been enlightening and informative, and we have a much better understanding now, both of what talent means in each community and what steps are important for retaining our talented officers in each. Indeed, we find *talent* to represent a situated and nuanced concept, with key characteristics differing across ranks, roles, jobs and other factors that also vary over time. Hence it has been uncertain whether the talent we retain is the best to meet our present, much less our future, needs.

In this present study we work to integrate the previous two investigations toward understanding talent in the US Navy more broadly. Results of this qualitative and integrative study confirm the situated and nuanced nature of talent, but they also highlight common elements across the two communities studied, elements that may prove insightful for understanding and retaining talent across the US Navy.

Examples of common elements center on what constitutes talent: regardless of the specific job, talented officers are able to accomplish their assigned tasks, and they are willing to expend the time and energy to do so. We also find commonality in how most job knowledge is learned outside of formal education and training venues (i.e., via OJT), and we understand how the ability to perform the corresponding jobs requires considerable domain specific knowledge. Leadership also represents an attribute of talent likely to apply to all Navy communities.

Further, in terms of attrition, results suggest that we should look to ways of making work “fun” for officers, for this can go far in terms of compensating for the long hours of hard work—especially when deployed and away from friends and family. We should look also for ways to increase opportunities for junior and midcareer officers to benefit from mentoring and positive leadership, for toxic leadership is highly likely to exist in all Navy communities, and it repulses talent.

Alternatively, we also find many differences across these two communities—differences that are likely to pervade most Navy communities—implying the situated and nuanced nature of talent. For instance, the IWC reflects considerable heterogeneity, whereas SWO participants exhibit great homogeneity. This illustrates how many aspects of talent must necessarily be highly situated in terms of an officer's warfare community, profession and job. Clearly one metaphoric size does not fit all in terms of Navy talent, which should be accounted for specifically in performance appraisal (e.g., via FITREP).

As another instance, IWC talent centers on information technology, which arguably changes and advances very rapidly with respect to maritime navigation and warfare. Hence the specifics of talent may be relatively stable and enduring for the SWC yet highly dynamic and ephemeral in the IWC. This suggests that different kinds of people (e.g., technology focused, able to keep up with rapid change) may be inherently more talented in the IWC than as SWOs, and vice versa perhaps, which can impact recruiting, detailing, reward and promotion targets and tactics.

As a third instance, we find differences in terms of what motivates and dissatisfies talented people from these two communities. Whereas talented IWC officers appear to be motivated intrinsically, and they express interest in job homesteading and specialization, their SWO counterparts appear to be motivated extrinsically, and they express high career focus and considerable anxiety over the performance evaluation process. Talented IWC officers also appear to enjoy high demand in terms of industry jobs. Clearly intrinsically motivated personnel with abundant job opportunities beyond the Military require different retention tactics than those motivated extrinsically.

This finding highlights a critically important distinction in how we should seek to identify, reward, promote and retain talented people from these two communities. Moreover, the situated and nuanced nature of talent elucidated through this study suggests that *every Navy community* will likely exhibit comparable, unique aspects of talent, aspects that will necessarily require some unique approaches to performance evaluation, criteria for promotion, and tactics for retention. We leave such approaches, criteria and tactics for future research.

Future research opportunities along these lines abound. It would be fruitful to conduct similar, grounded, qualitative studies that examine other, highly important Navy warfare communities (e.g., Aviation, Submarine) for like comparison and integration, and comparable studies of talent other Services (e.g., Air Force, Army, Marines) would complement and extend this work logically, as would studies of other militaries.

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